Abstinence Only vs. Comprehensive Sex Education:

What are the arguments? What is the evidence?

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Executive Summary

Over the last several years, Congress has emphasized funding abstinence-only programs over comprehensive sexuality education. President Bush and leaders in Congress have called for "parity" in funding between abstinence-only sex education and family planning, safe sex programs. Congress increased funding for federal abstinence programs in fiscal year 2002, and has been asked by the President to increase it by another $33 million in fiscal year 2003.

The abstinence-only approach to sex education is not supported by the extensive body of scientific research on what works to protect young people from HIV/AIDS, sexually transmitted infections (STIs), and unplanned pregnancy. An assessment of the peer-reviewed, published research reveals no evidence that abstinence-only programs delay sexual initiation or reduce STIs or pregnancy. By contrast, credible research clearly demonstrates that some comprehensive sex education, or "abstinence-plus," programs can achieve positive behavioral changes among young people and reduce STIs, and that these programs do not encourage young people to initiate sexual activity earlier or have more sexual partners.

The growing prominence of the abstinence-only approach will likely have serious unintended consequences by denying young people access to the information they need to protect themselves. And abstinence-only programs risk alienating the young people at highest risk of negative health outcomes by promoting a "one size fits all" vision of adolescence that matches the true experiences of only a minority of youth.

Unprotected sexual activity among young people can have severe personal, social and financial costs. Unprotected sex among youth results in nearly four million STIs each year, many with serious long term consequences. The great majority of the 10,000 annual new HIV infections among people under 22 occurs through sexual activity. The United States still has the highest rates of STIs and teen pregnancy of any industrialized nation.

The last decade has brought signs of encouragement. Sexual activity among young people has fallen while use of condoms is on the increase. Yet sex, and the potential for negative consequences from unprotected sex, remains a reality in the lives of young people. In 1999, one half (51%) of high school seniors said they had been sexually active within the last three months. Several sub-groups of young people are at elevated risk of HIV and STIs, including lesbian, gay and bisexual youth; youth of color; homeless youth; adolescents in the penal or foster care systems; and young people who have been sexually abused.

Responding to the continuing health threats of HIV, STIs and unplanned pregnancy among young people, the widely respected Institute of Medicine of the National Academy of Sciences recently recommended eliminating congressional, federal, state and local "requirements that public funds be used for abstinence-only education." And surveys consistently show that the public wants schools to deliver strong abstinence messages alongside information about self-protection for young people who find themselves in sexual situations. The vast majority of parents support sex education in the schools, including the provision of information about contraceptive and condom use.

Unfortunately, federal policy is grossly out of step with the wishes of most parents and students, as well as the scientific research. Since the early 1980s, Congress has devoted significant resources to abstinence-only programming. Partly as a result of federal policy and funding changes, public schools are increasingly supporting abstinence-only curricula that are less likely to include information about birth control, STD prevention and sexual orientation. The evidence tells us that these trends represent a dangerous disservice to America's younger generation.

Introduction

"A mutually faithful monogamous relationship in the context of marriage is the expected standard of human sexual activity." Different people will disagree about the veracity of this statement, but we know that it does not reflect the experiences of the majority of young people. Yet sex education funded by the federal government is required to be delivered in a way that is consistent with this declaration.

who report having had sex also reporting current abstinence.[1] In the 1999 YRBS, among those students who reported any sexual intercourse, 27% said they had been abstinent during the last three months.[1]

A significant percentage of sexual encounters among young people are not wanted. In the 1999 CDC survey, eight percent of 13- and 14-year-old girls reported their first sexual encounter was not voluntary.[1]

Abstinence-Plus Education	Abstinence-Only Education
Abstinence-plus education programs explore the context for and meanings involved in sex. • Promote abstinence from sex • Acknowledge that many teenagers will become sexually active • Teach about contraception and condom use • Include discussions about contraception, abortion, sexually transmitted diseases and HIV	Abstinence-only education includes discussions of values, character building, and, in some cases, refusal skills. • Promote abstinence from sex • Do not acknowledge that many teenagers will become sexually active • Do not teach about contraception or condom use • Avoid discussions of abortion • Cites sexually transmitted diseases and HIV as reasons to remain abstinent

The sex education debate in America takes on special relevance because sex, and its related health implications, are a reality in the lives of many young people. One of the best data sources on sexual and self-protective behaviors of young people is the Youth Risk Behavioral Surveillance System (YRBS) prepared by the U.S. Centers for Disease Control and Prevention (CDC). For years, the YRBS has been reporting a gradual decline in the percentage of young people reporting any sexual activity. According to the CDC surveys, the percentage of high school-aged youth (freshman through seniors) reporting they have ever had sexual intercourse fell from 53% in 1993 to 50% in 1999.[1, 2]

There has been slightly less change in the percentage of these young people who reported current sexual activity, defined as sexual intercourse during the preceding three months. In 1991, 38% reported current sexual activity. Eight years later, 36% reported such activity. Older students are more likely to currently be having sex.[2] Of students in grade 12 in 1999, 51% said they were currently sexually active.[1] Some students choose abstinence after initiation of sexual activity, with about one in four students

Definitions of Sexuality Education

The content of sexuality education curricula in America varies widely by region, by school district, and, sometimes, by classroom. The highly charged political debate concerning sex education could lead most people to believe there are hard and fast divisions between educational approaches. In fact, there are multiple program designs, many of which resist clear classification, or share components of seemingly opposing approaches.

For this monograph, we use the definitions commonly found in the sex education debate: curricula are grouped into the two broad categories of comprehensive sex education (also often called "abstinence-plus") and abstinence-only-until-marriage (or "abstinence-only") education. The former generally emphasizes the benefits of abstinence while also teaching about contraception and disease-prevention methods, including condom and contraceptive use.[3] By contrast, abstinence-only programs generally teach abstinence from all sexual activity as the only appropriate option for unmarried people.[3] Abstinence-only programs often do not provide detailed (or

any) information on contraception for the prevention of sexually transmitted diseases and unintended pregnancies.[3]

Sexuality education in the schools is a hot button issue in part because it is closely intertwined with social and parental interpretations of right and wrong, and with people's feelings about religion and personal autonomy. Yet sex education is also intended to serve a very practical public health purpose – to reduce STIs, HIV/AIDS, and unintended pregnancy among the country's young people. These are goals of sex education that virtually everyone agrees on. The debate centers on a question of methods (i.e., how to prevent negative health outcomes) and the ancillary goals of advocates on all sides (e.g., teaching particular moral values, or encouraging autonomous decision making).

Personal and Social Costs of Unprotected Teenage Sexual Behaviors

Although teen pregnancy and birth rates have declined in recent years,[4] the U.S. still has the highest rates of STIs and teen pregnancy of any industrialized country in the world.[5, 6] Each year, 3.75 million teenagers will contract an STI, and one in three sexually active individuals will contract an STI by age 24.[7] There are approximately one million teen pregnancies and about half a million teen births each year.[6] In the 1970s and 80s, pregnancy rates increased by 23% (from 1972 to 1990) but fell significantly in the 1990s (by 19% from 1991 to 1997).[6]

STIs can lead to significant personal, social and economic consequences. Pelvic inflammatory disease, which is often the consequence of an untreated or improperly treated STI, is responsible for at least 30% of cases of infertility among American women.[7] STIs can cause ectopic pregnancies, reproductive cancers, spontaneous abortions or still births, and other health problems, and make women 2-5 times more vulnerable to HIV infection.[7]

There are other potential costs to unprotected sexual activity among teenagers. Research has shown that adolescent girls who become mothers are less likely to complete high school. "[C]hildren born to younger teens may also experience poorer health outcomes, lower educational attainment, and higher rates of adolescent childbearing themselves when compared to children born to older mothers."[4] Teenage pregnancy and childbearing also carry with them significant economic consequences in the form of higher welfare costs.[4]

The Continuing Epidemic of HIV and AIDS

The HIV/AIDS epidemic remains a serious health concern for young people, and unprotected sexual activity is responsible for a substantial majority of these infections in youth. It is estimated that of the 40,000 new HIV infections in the US every year, approximately one-half (or 20,000) occur in people under the age of 25[8], and one-quarter of new infections (10,000 annually) occur among those under 22.[9] **Several** groups of young people are at an elevated risk for HIV infection, including young men who have sex with men (MSM), bisexuals, transgendered persons, homeless youth, runaways, injection drug users (IDUs), victims of sexual abuse, mentally ill youth, and young people in the penal or foster care systems.[10]

Among young people more than any other age group, HIV is spread sexually, and sex between men remains a significant risk factor.[8] In young men 20–24 years old, MSM account for 62% of cumulative AIDS cases while MSM/IDUs account for 10%. Of cumulative cases among young women aged 20–24, 55% are related to heterosexual sexual contact.[11] In total, 48% of cumulative reported AIDS cases among all youth aged 13–24 involves MSMs or MSM/IDU.[11] Approximately 11% of all cases among young men and women in this age group are categorized as "risk not reported."

HIV infection rates among young MSM remain high, particularly in urban areas. A study released in 2000 found that, among young (15–22 year old) MSM in seven metropolitan areas, the average HIV infection rate was 7.2%, with higher rates among African Americans, Latinos, and young men of mixed race.[12] Black and Hispanic women aged 13 to 24 account for approximately 75% of all HIV infections among American women.[13]

The Dynamics of Risk and Risk Perception

Young people are concerned about AIDS, but interviews with teens reveal that many do not perceive themselves to be *personally* at risk.[14] Only one in four (25%) of 15- to 17-year-old sexually experienced youth say they have ever been tested for HIV.[15] One reason may be lack of information. In a recent survey, only 46% of 15- to 17-year-olds say they knew where to get

tested for HIV infection or other STDs.[16] It also appears that many adolescents do not have a full understanding of contraception. For example, 21% of teens mistakenly believe that birth control pills are very or somewhat effective at HIV prevention.[17]

In the age of AIDS, condom use among the young has increased markedly. Between 1991 and 1999, reported condom use at last sexual intercourse increased from 46% to 58% among high school students.[18] And the percentage of young people reporting being taught about HIV/AIDS in school increased over the period from 83% to 91%.[18] Yet condom use declines as young people get older and other contraceptive methods are used at increasing rates. The longer a sexual relationship, the less likely young people are to use condoms[19]

Dynamics within relationships often determine whether contraceptives are used. Fifty-two percent of teens say that "one of the main reasons that teens do not use birth control is because their partners don't want to." And 53% of teens say "the main reason teens do not use contraception is because of drinking or using drugs."[20] Teens report mixed emotions about requesting that a condom be used during sex. When asked what they would feel if a sexual partner suggested using a condom, 89% would be "glad they brought it up," but 66% would be suspicious of their partner's sexual history, and 49% would feel like their partners were suspicious of their sexual history.[17]

These facts and figures offer encouragement and a challenge. Rates of sexual activity are falling and condom use rates are increasing. But STIs, HIV/AIDS, and unintended pregnancy remain serious health problems. In addition, the complex dynamics of risk and risk perception complicate prevention efforts. In this environment, sex education has a profoundly important role to play.

What Do Parents Want for Their Children?

Most parents believe their children need basic information about sex and sexual self protection. According to a survey of students, parents, teachers and principals commissioned by the Kaiser Family Foundation, "parents want a wider range of topics taught than is often included in sex education today."[21] Ninety-eight percent of parents say they want HIV/AIDS discussed in sex education classes; 85% want "how to use condoms" discussed; 84% think sex education should cover "how to use and where to get other birth control," and 76% want homosexuality addressed in classroom sexuality education.[21]

A public opinion survey of 1,050 adults nationwide by Hickman-Brown Research, Inc.[22] was commissioned by SIECUS and Advocates for Youth in 1999. It found that 84% of adults support sex education for junior high students and 93% support this education for high school students. When asked about what particular areas are appropriate to teach young people at various ages, 79% felt 7th and 8th graders should be taught about abstinence and an additional 12% felt 9th and 10th graders should be taught about abstinence. A majority of adults surveyed also supported junior high and high school students learning about contraception, condoms and sexual orientation issues. For example, 59% of adults thought 7th and 8th graders should be taught about contraception and birth control, and an additional 25% thought 9th and 10th graders should learn about this subject.

Adults interviewed for the survey were then asked which of the following statements they agreed with more: "Some people believe that whether or not young people are sexually active, they should be given information to protect themselves from unplanned pregnancies and sexually transmitted diseases. Other people believe that telling young people about birth control and sexually transmitted diseases only encourages them to have sex. Which comes closer to the way you feel?" Eighty-four percent of respondents said they agreed with the first statement, and 10% agreed with the second.

Young people and parents appear to be largely united on the need for more information about sexual health and sexual self protection. According to a national survey of teens, 51% say they need more information about how to get tested for HIV/AIDS and other STIs and 50% want more information on STIs other than HIV/AIDS; 39% want more information about abortion; 30% want more information on how to use condoms; and 27% say they need more information about sexual orientation.[21]

The Role of Federal and State Policy

In October 2001, Congressman Ernest Istook of Oklahoma came to the floor of the House of Representatives to offer an amendment. Istook was pleased that the appropriations bill being considered by Congress that day included substantial funding increases for abstinence-only education. But he lamented that these increases did not bring abstinence-only funding to parity with "safe sex, family planning" programs. "Mr. Chairman," Istook said in offering his amendment, "….This does not attack the programs that we have been funding for years, but it does say that it is about time that the average American, the typical American, the normal values of everyday people in this country, receive the same emphasis from their government as we have put on other things."[23] However, advocacy groups explain that the "parity" argument inappropriately compares funding for classroom education with funding for family planning medical services provided to minors in clinics.[24, 25]

Abstinence-Only Curriculum Welfare Reform Act of 1996
Allocates $50 million annually for five years to states for abstinence-only programs. The legislation requires that, among other things, programs teach: • "Abstinence from sexual activity outside marriage as the expected standard for all school-age children." • "A mutually faithful monogamous relationship in the context of marriage is the expected standard of sexual activity." • "Sexual activity outside the context of marriage is likely to have harmful psychological and physical effects."

Congressman Istook was echoing a call President George W. Bush had made during his candidacy that federal funding for abstinence-only programs should equal that for family planning programs. This new pro-abstinence-only movement among leading politicians sounded reasonable enough. It was presented as a quest for "balance" in the messages young people hear, as an affirmation of values that are beneficial to adolescents. And yet there is little reason to conclude that abstinence-only curriculum represents the "typical" American's wish for what should be taught in schools or the real life challenges faced by the "average" American adolescent.

The abstinence-only movement is pushing against balance in sex education curricula, by promoting one set of behaviors and values. Comprehensive sex education typically promotes abstinence as the best option for young people, while providing them with information about self protection if they do have sex. Abstinence-only turns away from the challenges young people face as they make decisions about sexuality and self-protection.

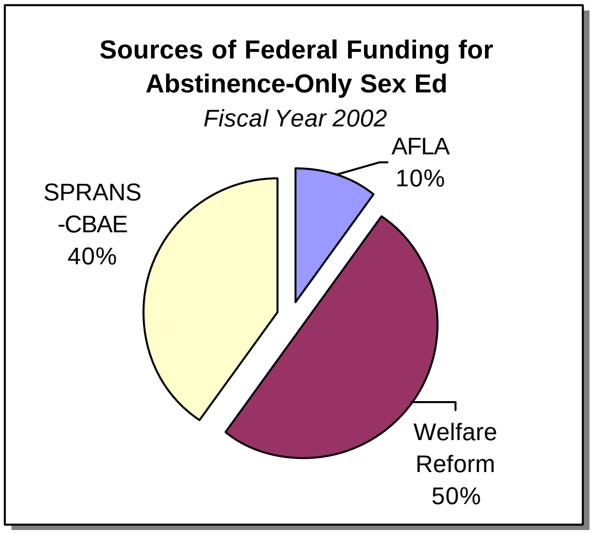
And yet with no evidence of effectiveness behind it, abstinence-only education is the new wave in federal policy on sexuality education. Since the early 1980s, Congress has devoted large sums of federal funding toward abstinence-only-until marriage education. Combined with state matching dollars, funding for abstinence-only education increased by nearly 3000% from 1996 to 2001.[3]

Federal Policy

Federal law does not require sexuality education in schools. In fact, several federal statutes stipulate that the federal government should not prescribe curriculum standards.[26] However, Congress has created three programs that provide federal funding for sexuality education: 1) the Adolescent Family Life Act (AFLA); 2) targeted abstinence-only funding through 1996 welfare reform legislation; and 3) the Special Projects of Regional and National Significance–Community-Based Abstinence Education (SPRANS-CBAE) grant program. All three of these programs promote abstinence-only sexuality education.

In fiscal year 2002, federal appropriations for promoting abstinence-only education reached $102 million: $12 million through AFLA ($10 million is earmarked for abstinence-only programs while $2 million is earmarked for abstinence-based programs), $50 million through the welfare reform legislation and $40 million through SPRANS-CBAE. President Bush recently proposed a $33 million increase in abstinence-only sexuality education for the FY 2003 budget, which would bring the total federal funding level for abstinence programs to $135 million ($12 million through AFLA, $50 million through the

welfare reform legislation, and $73 million through the SPRANS-CBAE program).[27]



Adolescent Family Life Act

In 1981, Congress passed the AFLA, commonly referred to as the "Chastity Act," which was designed to "promote self discipline and other prudent approaches to the problem of adolescent premarital sexual relations, including adolescent pregnancy" and "to promote adoption as an alternative for adolescent parents."[28] The enactment of AFLA represents the first time the federal government invested in teen pregnancy prevention programs focused on "chastity and self discipline."[29] The AFLA program awards grants to public and nonprofit organizations to provide services "which are essential to … the prevention of adolescent premarital sexual relations and adolescent pregnancy" and which provide care for "pregnant adolescents and adolescent parents."[28]

In 1983, because AFLA's early programs largely benefited religious groups, the ACLU, on behalf of clergy members and taxpayers, filed suit claiming that how AFLA was implemented violated the separation of church and state as mandated by the U.S. Constitituion.[30] The plaintiffs argued that ALFA constituted an endorsement by the federal government of a particular religious point of view.[31] A federal district court found that the program was unconstitutional, but the Supreme Court reversed that decision.[3] Litigation continued concerning how ALFA would be implemented.[31]

In January 1993, an out-of-court settlement was reached between the Department of Civil Justice and the Center for Reproductive Law and Policy stating that AFLA-funded sexuality education: "may not include religious references; must be medically accurate; must respect the `principle of self-determination' of teenagers regarding contraceptive referrals; and must not allow grantees to use church sanctuaries for their programs or to give presentations in parochial schools during school hours."[31]

Despite its troubles, the federal government has invested significantly in AFLA. From fiscal year 1982 to fiscal year 1996, AFLA funding for abstinence-based programs totaled approximately $52 million.[32] In 1996, AFLA was altered to reflect the restrictive definition of abstinence education contained in the 1996 welfare reform legislation (discussed below).[31] Since then, AFLA has received approximately $10 million annually for these more restrictive abstinence education programs.

Welfare Reform Legislation

In the mid-1990s, federal investment in abstinence-only sexuality education increased significantly as a result of a provision attached to the welfare reform legislation. Signed by President Clinton in 1996, the welfare reform legislation creates an automatic annual appropriation for abstinence education in Section 510, Title V, of the Social Security Act. Starting in 1998, the law provides $50 million annually for five years to enable states "to provide abstinence education … with a focus on those groups most likely to bear children out of wedlock."[33] Funds are only provided to programs following the legislation's strict eight-point definition of "abstinence education." Participating states must match every $4 of federal funds with $3 of state funds.[34]

For purposes of the legislation, the term "abstinence education" means an educational or motivational program that:

- Has as its exclusive purpose, teaching the social, psychological, and health gains to be realized by abstaining from sexual activity;
- Teaches abstinence from sexual activity outside marriage as the expected standard for all school-age children;

- Teaches that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems;
- Teaches that a mutually faithful monogamous relationship in the context of marriage is the expected standard of human sexual activity;
- Teaches that sexual activity outside of the context of marriage is likely to have harmful psychological and physical effects;
- Teaches that bearing children out-of-wedlock is likely to have harmful consequences for the child, the child's parents, and society;
- Teaches young people how to reject sexual advances and how alcohol and drug use increase vulnerability to sexual advances; and
- Teaches the importance of attaining self-sufficiency before engaging in sexual activity.[35]

State Implementation of the Welfare Reform Legislation

During 1998, the first year of the program, all 50 states, the District of Columbia, Guam, the Virgin Islands and Puerto Rico applied for grants for abstinence-only programming authorized through the welfare reform bill.[3] (Two states – California and New Hampshire – eventually declined the grants.[3]) States invested their funds on approximately 700 abstinence-only grants to education agencies, community-based organizations and statewide programs.[3] Twenty-two states introduced new abstinence-only programs while 21 continued existing abstinence-only programs.[3]

In the second year of the program, 49 states, Puerto Rico and the Virgin Islands applied for and received federal funding. Although California applied for funds, it ultimately chose not to participate in the program.[3] That year, 45 jurisdictions spent a total of $69 million through the program — $33 million through public entities, $28 million through private entities and $7 million (in 22 jurisdictions) through faith-based entities.[36] In FY 2000, the third year of the program, California was the only state that did not apply for federal funds.[3]

SPRANS-CBAE

In 2000, Congress approved a third abstinence-only education program. SPRANS-CBAE (Special Projects of Regional and National Significance–Community-Based Abstinence Education) is funded through a set-aside in the maternal and child health block grant, receiving $20 million in FY 2001 and $40 million in FY 2002. Similar to abstinence-only education funded under the welfare reform law, programs funded under SPRANS-CBAE must conform to the strict Federal eight-point definition of abstinence put forth in that law.[37]

But SPRANS-CBAE is even more restrictive than the welfare bill, requiring programs to be "'responsive'" to *each* of the eight points, rather than simply not being "inconsistent" with any of the points, as in the welfare legislation.[37] Further, SPRANS-CBAE does not require programs or states to match the funding they receive. In addition, SPRANS-CBAE funds are competitive grants awarded directly to public or private organizations while the welfare reform programs are funded through categorical block grants to states.[37] Recipients of the grants include Mid-South Christian Ministries; Choosing the Best, Inc.; Tri-County Right to Life Education Foundation; Catholic Charities of Buffalo; and The Crisis Pregnancy Centers of Greater Phoenix.[37]

The SPRANS-CBAE program awards two types of grants: 15 to 21 one-year planning grants, ranging from $50,000 to $75,000, and approximately 25 to 50 three-year implementation grants, ranging from $250,000 to $1 million.[38] On July 6, 2001, HHS announced that over $17.1 million in new grants will be provided for abstinence-only education for young people between 12 and 18 years of age.[37]

Family Life Education Act

To date, legislation to promote comprehensive sex education has fared less well in Congress. On December 12, 2001, Representative Barbara Lee of California introduced the bipartisan-supported "Family Life Education Act" in the House of Representatives. The legislation would provide $100 million in grants to states "to conduct programs of family life education, including education on both abstinence and contraception for the prevention of teenage pregnancy and sexually transmitted diseases, including HIV/AIDS."[39] The legislation would permit states to receive federal funds for comprehen-

sive sexuality education that includes information both on abstinence and contraception. The legislation's co-sponsors are Representatives Lynn Woolsey, a Democrat from California, and Jim Greenwood, a Republican from Pennsylvania. The fate of this legislation is not known.

State Policy

According to a review of states' laws and policies by the Alan Guttmacher Institute, most states have adopted laws governing sexuality and STI education.[40] The review found that 39 states require that some sexuality education be provided throughout the state, and that 21 states require that both sexuality and STD education be provided.[40] Seventeen states require the provision of STD information specifically, but not sexuality education. Only Maine requires sexuality education but not STD education, and 11 states leave the decision to teach sexuality education and/or STD education entirely to local school districts.[40]

School Policies

While most states require schools to teach sexuality education, local school districts are given wide latitude in determining the content of their sexuality education programs.[40] However, the minimal guidance that states do provide stresses abstinence.[40] More than two out of three public school districts have a policy mandating sexuality education.[29] According to a nationwide survey taken by the Alan Guttmacher Institute of school superintendents:

- "86% percent of school districts with a sexuality education policy require promotion of abstinence";
- "51% require that abstinence be taught as the preferred option but also permit discussion of contraception as an effective means of protecting against unintended pregnancy and STIs";
- "35% require abstinence to be taught as the only option for unmarried people, while either prohibiting discussion of contraception altogether or limiting discussion to contraceptive failure rates"; and
- "14% of school districts currently have policies that are truly comprehensive and teach both contraception and abstinence".[29]

A study comparing 1988 and 1999 national surveys of teachers found that secondary public schools are increasingly focused on abstinence-only education, finding "steep declines" in the teaching of birth control, abortion and sexual orientation in the schools between 1988 and 1999.[41] According to the study, 23% of secondary school sexuality education teachers in 1999 taught abstinence as the only way of preventing pregnancy and STIs as compared to 2% in 1988.[41] Schools in the South are most likely to have abstinence-only policies while, in contrast, school districts in the Northeast are least likely to have abstinence-only policies.[29]

What the Research Tells Us

Behavior research cannot make judgments about social values, but it can evaluate the success of school-based curricula at producing tangible outcomes for young people. The weight of the evidence from peer-reviewed scientific journals clearly shows that some comprehensive sex education programs can reduce behavior that puts young people at risk of HIV, STIs and unintended pregnancy, and that these programs do not promote earlier onset of sexual activity or an increased number of sexual partners among adolescents. By contrast, little if any credible research exists to substantiate the claims that abstinence-only programming leads to positive behavior change among youth.

The credible research sends a clear message to policy makers: if the goal of school-based sex education is to increase positive health outcomes for youth, comprehensive (or "abstinence-plus") sex education is the proven effective choice. Abstinence-only programming runs the serious risk of leaving young people, especially those at elevated risk, uninformed and alienated.

> "…[T]he committee recommends that: Congress, as well as other federal, state, and local policymakers, eliminate requirements that public funds be used for abstinence-only education, and that states and local school districts implement and continue to support age-appropriate comprehensive sex education and condom availability programs in schools."
>
> *Institute of Medicine, 2001*[42]

By far the most comprehensive survey of research on sex education has been conducted by Dr. Douglas Kirby and a team of research experts. With publication of *Emerging Answers* in 2001, Kirby provided a lengthy and sophisticated review of hundreds of published studies on the outcomes of sex education curricula for young people in schools, health clinics and in communities.[19] One of the most important points to come out of Kirby's analysis is that while some sex education programs make measurable differences in the lives of young people, the negative consequences of teen sexual activity are complex and not easily remedied with a school class or an after school program. Teen sexuality is influenced by parents, schools, communities, the media, society as whole, available prevention technology, and individual young people themselves.

Teenagers can, in most cases, choose their sexual behavior. But the research demonstrates that how those decisions are made is greatly influenced by the world that surrounds young people. And many of these social factors go beyond the "values" espoused by community leaders, involving the stubborn complexities of economic, geographic, and historical factors. As Kirby notes, "A substantial proportion of all the risk factors involve some form of disadvantage, disorganization, or dysfunction…."[19] The multiplicity and complexity of these risk and resilience factors mean that no one intervention can fully address the myriad risks faced by young people – there are no simple answers to the challenges of teen sexual risk taking.

Studies on Abstinence-Only Programs

While much has been written on the value or limitations of abstinence-only programs, a surprisingly few number of published, peer-reviewed abstinence-only studies exist that demonstrate measurable behavior change among young people. Abstinence-only advocates claim that there are reliable studies that indicate the positive effects of abstinence-only programs. For example, a report commissioned by the Consortium of State Physicians Resource Councils lists six studies that the Consortium says point to positive effects of the abstinence-only approach.[43] Yet only one of these studies is a peer-reviewed published journal article issued in the last ten years. Other references include articles in the *Portland Oregonian*, a doctoral dissertation, and a report from the Michigan Department of Community Health. The one recent peer-reviewed article does not actually review an abstinence-only program, but is instead a report on survey findings from the National Longitudinal Study on Adolescent Health noting that a pledge of abstinence was the factor most associated with a delay in initiation of sexual activity among those surveyed.

Abstinence-only advocates have also touted a study[44] published in 2001 which found that teens who take a pledge to remain virgins until they

marry are much less likely to have sexual intercourse than adolescents who did not take the pledge. However, the study also found that the pledges were effective only when taken as part of a minority, although not too small, group. It appears that pledges of virginity have particular power only when those making the pledge feel they are part of a select group. The implication is, of course, that such pledges would not be effective for whole populations of students in any school or community.

Also of interest is a September 2001 survey commissioned by the National Campaign to Prevent Teen Pregnancy which reports that teens cite moral and religious beliefs as significant factors in not engaging in sex, and that "[a]dolescents who are more religious hold more conservative views regarding sex."[45] In addition, the survey found that "religious" young people are more likely to delay having sex. The survey results point out that for many young people, a message emphasizing particular traditional and religious values can be powerful and positive. It must be remembered, however, that such messages will not resonate with some young people and that it would be unconstitutional to teach religion in schools.

The most rigorous study of an abstinence-only program reviewed in *Emerging Answers* studied the outcomes of the Postponing Sexual Involvement (PSI) curriculum, a five-session program taught by adults or peers that was implemented in California.[46] Although ultimately finding that the PSI program was unlikely the cause, the study found that students enrolled in PSI who received instruction from peers were *more likely* to report becoming pregnant or causing a pregnancy. The study concluded that the program had no measurable impact on the initiation of sex, the frequency of sex, or the number of sexual partners.

Studies on Comprehensive Sex Education Programs

In contrast to the limited and discouraging results for studies on abstinence-only programs, the published research on sex and HIV education programs is far more conclusive and encouraging. According to *Emerging Answers*, "A large body of evaluation research clearly shows that sex and HIV education programs included in this review do not increase sexual activity – they do not hasten the onset of sex, increase the frequency of sex, and do not increase the number of sexual partners. To the contrary, some sex and HIV education programs delay the onset of sex, reduce the frequency of sex, or reduce the number of sexual partners."[19]

Several specific studies have demonstrated positive outcomes from sex education curricula, including delayed initiation of sexual activity, increased condom use, and decreased number of sexual partners. Ekstrand and colleagues[47] studied the effects of an intervention titled *Healthy Oakland Teens* in Oakland, California. The program involved 7th graders in five adult-led and eight peer-led sessions. Students were provided with information on HIV and STIs, substance abuse and preventive behaviors. Issues such as perception of personal risk, costs and benefits of preventive behaviors, refusal skills and condom use were all addressed. The researchers found that those students in the intervention group delayed initiation of sexual activity.

One intervention, called *Reducing the Risk*, was found to be effective when independently implemented and examined by different researchers in different locations. Kirby and colleagues[48] studied this intervention in urban and rural areas throughout California through15 sessions in 9th to 12th grade health education classes. The intervention included extensive role playing and emphasized avoidance of unprotected sex through abstinence or using protection. The control group received existing sex education programs of equal length. At 18 months post-intervention, the program was found to have delayed the initiation of intercourse, increase frequency of contraceptive use for females and lower-risk youth, and reduce the frequency of unprotected intercourse among more sexually inexperienced youth. Seven years later, Hubbard and his colleagues[49] also studied the *Reducing the Risk* intervention, but conducted the study in urban and rural areas in Arkansas. This study involved 16 sessions with the same age group, and also included extensive role playing and emphasized avoidance of unprotected sex through abstinence or using protection. The control group received existing sex education activities from state-approved texts or abstinence-only curricula. Similarly, the study found that the program delayed the initiation of intercourse and increased condom use among sexually inexperienced youth.

St. Lawrence and colleagues[50] studied the intervention *Becoming A Responsible Teen*, that included eight 1½ to 2-hour weekly meetings. The intervention used small group discussions and included role playing and sessions with HIV positive young people. AIDS information, sexual decision making, and use of condoms were all covered in the discussions. The researchers found that young people in the intervention group, as compared with those in the control group, showed delayed initiation of sexual intercourse, decreased number of sexual partners, and increased rates of condom use.

One recent study compared comprehensive sex education curricula with an abstinence-based approach. *Be Proud! Be Responsible!* delivered the two curricula (abstinence-based and safer sex-based) to low-income 6th and 7th graders in Philadelphia. Eight one-hour modules were provided over two Saturdays and included small group discussions, videos, games and experiential exercises. Jemmott and colleagues found more positive effects on frequency of sex, condom use, and frequency of unprotected sex over time for those young people in the safer sex-based sessions than for those in the abstinence-based sessions.[51] The abstinence-based curriculum delayed the initiation of intercourse at 3 months post-intervention and increased condom use at 12 months post-intervention. It should be noted, however, that this was not a strict abstinence-only program. Abstinence was strongly emphasized, but condoms were mentioned as a means of contraception.

Other studies have demonstrated long lasting positive effects on behavior from comprehensive sex education programs. Coyle and colleagues[52] studied an intervention called *Safer Choices*. Ninth graders in San Jose, California and Houston, Texas were involved in multiple activities, including sex education curriculum. There was also a parent education component. The program emphasized abstinence, but taught that condom use makes sex safer. Students also received training on skills to avoid sex or use condoms if they did have sex. Researchers found that those in the intervention group showed increased condom usage rates and reduced frequency of sex without condoms. These positive outcomes held up more than 31 months after the intervention.

Government Report on Condom Effectiveness

Abstinence-only adherents have seized upon a study released by the US Department of Health and Human Services (HHS) in July 2001 that was widely reported to raise questions about the efficacy of condoms to prevent some STIs. In June 2000, at the request of then-Congressman Tom Coburn (R-OK), a panel of experts was convened to answer the question: "What is the scientific evidence on the effectiveness of latex male condom-use to prevent STI transmission during vaginal intercourse?" The 28 experts reviewed more than 138 peer-reviewed published studies on condom use. Their report concluded there is sufficient evidence to determine that male latex condoms can reduce HIV transmission and can also prevent men from acquiring gonorrhea from a female partner.

The panel also determined that the current scientific evidence is not sufficient to make conclusions about the usefulness of condoms in preventing transmission of other STIs, including genital human papilloma virus (HPV) or other sexually transmitted infections that might be passed through lesions not covered by condoms. However, according to the expert review, condoms "might afford some protection in reducing the risk of HPV-associated diseases." The final report released by HHS noted that, "the absence of definitive conclusions reflected inadequacies of the evidence available and should not be interpreted as proof of the adequacy or inadequacy of the condom to reduce the risk of STIs."

Referring to a new law requiring federal agencies to provide medically accurate information, former Congressman Coburn opined to the Secretary of HHS that, "this report means that when condom use is discussed, it is no longer medically accurate – or legal for the CDC – to refer to sex as 'safe' or 'protected'…. As a medical doctor, the best prescription I can give to avoid infection with a sexually transmitted disease is abstinence until marriage and a life-long, mutually monogamous relationship with an uninfected partner."[53] The CDC has not announced any changes in its policies, however, and continues to report that condoms, when used properly, are "highly effective in preventing HIV transmission."[54]

Following the release of the HHS literature review on condom efficacy, the American Public Health Association, the World Health Associa-

tion, and the Joint United Nations Programme on AIDS (UNAIDS) all reaffirmed their positions regarding the importance of continuing to promote the use of condoms for HIV prevention.

Appropriate Programming for Young People at Elevated Risk

If one of the primary goals of sex education in schools is to reduce the number of HIV infections and STIs, then programming must be designed to meet the needs of young people at elevated risk for acquiring these infections. These youth include the sexually experienced, sexually abused youth, homeless and runaway youth, and gay and lesbian young people.

While teens in each of these groups may benefit from a strong abstinence message, it is also clear they will not be well served by programming which claims that sexual experiences should occur exclusively in the context of traditional marriage or which shames other kinds of sexual experiences. Young people at higher risk need guidance on how to live lives safely outside of the structures of traditional married life. Failure to provide lesbian/gay-sensitive information would effectively shut out a significant minority of young people at elevated risk from the benefits of sexuality education. In their assessment of the HIV epidemic among young MSM, the Centers for Disease Control and Prevention warned that "Abundant evidence shows a need to sustain prevention efforts for each generation of young gay and bisexual men."[55]

The risk of HIV and STIs is compounded for lesbian and gay young people. The 1995 Massachusetts Youth Risk Behavior Surveillance found that being gay, lesbian or bisexual increased a young person's chances of having experienced sexual contact against his or her will and of having had sexual intercourse with four or more partners.[56] Gay, lesbian and bisexual youth face other special challenges. They are at increased risk for harassment and violence,[57] and suffer high rates of suicide and other mental health-related conditions.[58,59] Young lesbians, gays and bisexuals are more likely to have left or been abandoned by their families and, therefore, to be out of both the private and public health care system.[60]

Lack of access to health care among young gays and lesbians is particularly troublesome since, as noted above, young men who have sex with men represent a significant share of the 10,000 new HIV infections that occur in young people under the age of 22 each year in the United States. The advent of highly active antiretroviral therapy for HIV disease means there are additional reasons to counsel young people about HIV and encourage them to be tested for HIV and seek care. One recent study found that only a quarter (25%) of sexually experienced 15- to 17-year-olds have ever been tested for HIV.[15]

Research has established that HIV prevention and sex education programming can be beneficial to young people at elevated risk of negative health outcomes. For example, researcher Mary Jane Rotheram-Borus studied an intervention with homeless and runaway youth that included up to 30 HIV intervention sessions addressing general HIV knowledge, coping skills, access to health care, and individual barriers to safer sex. The program successfully increased consistent condom use for those receiving the intervention.[61]

Arguments for Abstinence-Only Sex Education

There are many different groups across the United States advocating for abstinence-only sex education in the schools. They include Concerned Women for America, the Eagle Forum, the Family Research Council, Focus on the Family, the Heritage Foundation, the Medical Institute for Sexual Health (MISH), the National Coalition for Abstinence Education, and STOP Planned Parenthood International.

These and other proponents of abstinence-only education argue primarily that sex before marriage is inappropriate or immoral and that abstinence is the only method which is 100% effective in preventing pregnancy and STIs.[62, 63] Many such groups emphasize that condoms are not fool-proof in preventing pregnancy or STIs, and that sexual activity outside marriage can result in "serious, debilitating, and sometimes, deadly consequences."[63] In addition, many abstinence-only advocates are deeply concerned that information about sex, contraception and HIV can encourage early sexual activity among young people.[63] These advocates credit the decrease in teenage pregnancy largely to the advancement of the abstinence-only message.[64]

An article on the Concerned Women for America web site states that "[t]his is not simply an issue of morality, but a matter of public health. The problems that have become so entrenched in our country, such as AIDS, illegitimate births, poverty, increasing crime and the breakdown of the nuclear family, can all be attributed to the debilitating effects of a public policy that condones sex without love or responsibility. … As research clearly indicates, America is not suffering from a lack of knowledge about sex, but an absence of values."[63]

Another group, Focus on the Family, decries what they believe is a dangerous inconsistency in health curricula. "From tobacco, alcohol and drug use to fighting, gun use and drunk driving, the prevailing message is 'don't do it' – avoid or eliminate the risk," they write. "But when it comes to sex and all the potential dangers that accompany it the message is, 'Use condoms to reduce your risk of unwanted pregnancies and sexually transmitted diseases.'"[65]

In addition, abstinence-only advocates argue that traditional values and religious faith, which they believe are consistent with the abstinence-only message, have measurable positive effects. Concerned Women for America states that "study after study has shown that religion acts as a deterrent to early sexual activity."[63] And, as noted above, many teens say that morals, values and/or religious beliefs play a significant role in deciding whether or not to have sex.

Abstinence-only proponents point to studies concluding that the abstinence-only education message has played a central role in the decline of adolescent sexual activity, and related negative health outcomes, over the last decade. One study reports that "…abstinence and decreased sexual activity among sexually active adolescents are primarily responsible for the decline during the 1990s in adolescent pregnancy, birth and abortion rates. Attributing these declines to increased contraception is not supported by the data."[43]

The logic of this argument is as follows: statistics show a shift in choice of contraceptives from oral contraception to condoms among young people in the 1990s. "[B]ased on lower reported contraceptive use and switch to a less effective prevention method (condoms vs. oral contraceptives), sexually active adolescent females in 1995 were less protected against pregnancy than in 1988."[43] At the same time, the out-of-wedlock birthrate for sexually active females, 15–19, increased from 1988 to 1995 – despite an increased use of condoms. The authors conclude that the overall declines in pregnancy are likely due mostly to expanded acceptance of abstinence and abstinence-only teachings, resulting in an overall decline in adolescent sexual activity.

The Medical Institute for Sexual Health (MISH) Analysis

MISH has positioned itself as a leader in defining abstinence-only curricula and rebutting "abstinence-plus" education efforts. Like the Sexuality Information and Education Council of the United States (SIECUS), MISH has proposed education guidelines for sexuality education in kindergarten through high school. MISH says that its guidelines offer "a character-based abstinence approach to sexuality education." A MISH handbook provides a side-by-side comparison of SIECUS and MISH guidelines, told from the perspective of MISH.[66] According to this comparison of curricula, the MISH guidelines promote "moral capabilities, such as the

ability to judge right from wrong," while SIECUS informs youth that "sexual intercourse provides pleasure" and that "homosexual love relationships can be as fulfilling as heterosexual relationships."

MISH teaches that "there are core ethical values that are held, more or less, universally… [I]t is most appropriate for schools to target these core ethical values (respect for self and others, responsibility, self-discipline, self-control, integrity, honesty, fairness, kindness, etc.) as objectives for curricular development." In contrast, SIECUS is said to believe that "values should be freely chosen after the alternatives and their consequences are evaluated."

The MISH critique of the safer sex approach is that it is "value neutral," emphasizing individual choices by students rather than moral absolutes. MISH urges that "it is incumbent upon responsible adults to direct students away from physically unsafe or disadvantageous lifestyle alternatives and toward those which enhance opportunities for successful, healthy futures." For MISH, counseling young people about methods of self-protection in sex undermines the abstinence message. Students "must not leave the sex education classroom thinking, 'I'm being responsible and safe if I use a condom.'" If condoms and other contraceptives are discussed, MISH urges an emphasis on the failure rates of these methods.

At a fundamental level, what is at issue here is not only content, but control – who determines what young people hear about sexuality: schools, teachers, young people, or parents. The MISH booklet argues that "when parent views differ from those of their children, 'safer sex' proponents generally support student interests over parental wishes." For MISH, parental control over the teaching of values is paramount, and they are opposed to the promotion of young people making free, though educated, choices about sexual practices.

Arguments for Comprehensive Sex Education

A wide range of national organizations support comprehensive sexuality education, including SIECUS, Advocates for Youth, the American Academy of Pediatrics, the American College of Obstetricians and Gynecologists, the American Medical Association, the American Public Health Association, the National Education Association, the National Medical Association, the National School Boards Association, and the Society for Adolescent Medicine.[34]

Most proponents of comprehensive sex education argue that sexuality education should encourage abstinence but should also provide young people with information about contraception and STD and HIV prevention (hence the title "abstinence-plus" programming). According to SIECUS, comprehensive school-based sexuality education that is appropriate to students' age, developmental level, and cultural background should be an important part of the education program at every age. SIECUS defines a comprehensive sexuality education program as one that "respects the diversity of values and beliefs represented in the community and will complement and augment the sexuality education children receive from their families."

Comprehensive sex education proponents argue that "[b]y denying teens the full range of information regarding human sexuality, abstinence-only education fails to provide young people with the information they need to protect their health and well-being."[34] And surveys of young people conducted by the Kaiser Family Foundation found that "students who have sex education – regardless of the curriculum – know more and feel better prepared to handle different situations and decisions than those who have not."[21]

Advocates point to studies finding that the public supports the provision of contraceptive information to teens by wide margins. For example, a survey commissioned by the National Campaign to Prevent Teen Pregnancy and released in 2001 found that 95% of adults and 93% of teens said "it is important that teens be given a strong abstinence message from society," but 70% of adults and 74% of teens said that advising abstinence while also giving young people information about contraception is not a mixed message.[6] SIECUS reports that "the vast majority of Americans support sexuality education," and cites several polls, including a 1999 national survey finding that 93% of all Americans support the teaching of sexuality education in high schools, and 84% support sexuality education in middle and junior high.[26]

Comprehensive sex education advocates also like to cite studies that find that providing teens with contraceptive information does not encourage early sexual activity. In July 2001, Surgeon General David Satcher released a *Call to Action* on promoting sexual health. Reviewing the evidence on comprehensive approaches to sex education, the Surgeon General found that the "evidence gives strong support to the conclusion that providing information about contraception does not increase adolescent sexual activity…[and that] some of these evaluated programs increased condom use or contraceptive use more generally for adolescents who were sexually active."[67] The report also notes that there are a limited number of studies on abstinence-only programs and that it is "too early to draw definite conclusions about this approach."

In the previous chapter, it was noted that abstinence-only advocates have attributed declines in teen pregnancy in the 1990s to an increased practice of abstinence. Comprehensive sexuality advocates argue that, in fact, most of the decrease in the teen pregnancy rate was due to lower pregnancy rates among sexually experienced young women. An analysis[68] of the decline in teen pregnancy in the 1990s published by the Alan Guttmacher Institute shows that approximately 25% of the decrease was due to a lower proportion of teenagers who were sexually experienced, while 75% of the decrease can be attributed to lowered pregnancy rates among those young women who were sexually experienced.

For many sex education advocates, the abstinence-plus approach acknowledges the central fact that at least half of high school students report having had intercourse, and that this substantial portion of the population needs information in order to protect themselves. According to a Consensus Statement of the National Commission on Adolescent Sexual Health, "society should encourage adolescents to delay sexual behaviors until they are ready physically, cognitively, and emotionally for mature sexual relationships and their consequences. … Society must also recognize that a majority of ado-

lescents will become involved in sexual relationships during their teenage years."[69]

In 2000 the distinguished Institute of Medicine issued a report, *No Time to Lose*, that assessed HIV prevention efforts in the country. The report recommends eliminating congressional, federal, state and local "requirements that public funds be used for abstinence-only education, and that states and local school districts implement and continue to support age-appropriate comprehensive sex education and condom availability programs in schools."[42]

Conclusion

No quantity of research will settle the moral and religious disputes that circle around the sex education debate. What research can do is point parents, educators, and policy makers towards positive health outcomes for young people. Like it or not, sexual activity is a reality for teens in America, and it is hard to imagine a school-based intervention which will magically undo the media pressures and natural hormonal urges that young people experience. Facing up to this reality means implementing responsible programming that truly meets the test of science and the real world needs of the young.

Several important questions need to be addressed to support more effective federal policy and programming on sexuality education. Are federal funding allocations for sex education consistent with what the current science tells us about effectiveness? Is HHS sponsoring research appropriate to inform policy on sex education? Are federal agencies providing guidance on sex education research to those at the federal, state, and local levels who design programming? Are the results of sex education research disseminated widely and in a way that is accessible to parents, teachers, and school board members? What percentage of young people, particularly those at elevated risk, has access to education about sexual self-protection? What percentage of youth has access to condoms and HIV testing?

Despite its sometimes shrill tenor, the sex education debate does not require anyone to make a choice between absolutes. The central question is whether accurate information about sexual self-protection is to be made available. As the research demonstrates, promoting abstinence and providing basic health promotion information is not inconsistent – it can work to reduce the risk of disease and unplanned pregnancy.

The $102 million currently being spent by the federal government on abstinence-only programming is designed to serve social and political goals, rather than produce solid public health outcomes for young people. Not only is there no credible evidence that these millions of dollars have any positive effect, there is reason to be concerned that young people who receive abstinence-only curricula in school will not have the tools to protect themselves in sexual situations.

Ultimately, the public will need to insist that policy makers base funding and laws on the health needs of young people, particularly those youth who are at elevated risk. Until the public demands that health education be designed to prevent disease and unwanted pregnancy, social agendas will drive much of the policy being made in Washington and state capitols around the country.

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Appendix: Table of Studies

Excerpted from Kirby, 2001;[19] publication available through National Campaign to Prevent Teen Pregnancy (www.teenpregnancy.org)

Study Information	Sample Description	Study			Results	
Program(s)/ Author(s)/ Publication Date	Location/ Socioeconomic Status (SES) / Post-Sample (N)	Program Description	Design	Analytic Methods	Change in Outcome	Additional Comments
Abstinence Only						
Postponing Sexual Involvement/ENABL Kirby, Korpi, Barth, Cagampang 1995	Dispersed throughout CA Varied SES N=7,753	**Setting:** Classrooms in most designs; community organizations in one design **Sessions:** 5 1-hour sessions **Content:** Designed both to help youth understand social and peer pressures to have sex and to develop and apply resistance skills; emphasis upon postponing sexual involvement; based on social influence theory. **Methods:** Taught by adults or teens	Experimental Random assignment of entire schools, classrooms, or individual youths. In part of the study, students were randomly assigned to adult-taught PSI, peer-taught PSI, or a control group. Matched questionnaire data were collected at baseline, 3 and 17 months post-intervention. Intervention post-test: N=3,697 Comparison post-test: N=4,056	t-tests between intervention and comparison groups using change scores.	Initiation of intercourse: 0 Frequency of sex in previous 3 months: 0 Frequency of sex in previous 12 months: 0 Number of sexual partners: 0 Use of condoms: 0 Use of birth control: 0 Pregnancy: Teen led: - Adult led: 0	The evaluation was very rigorous; it had random assignment, large sample sizes, long-term follow-up, and appropriate statistical analyses. It also examined the impact of PSI implemented in community settings, individual classrooms, or entire schools.

Study Information	Sample Description	Study			Results	
Program(s)/ Author(s)/ Publication Date	Location/ Socioeconomic Status (SES) / Post-Sample (N)	Program Description	Design	Analytic Methods	Change in Outcome	Additional Comments
Stay SMART St. Pierre, Mark, Kaltreider, Aikin 1995	Mostly in urban areas throughout the U.S. Low SES N=273	**Setting:** Boys and Girls Clubs of America **Sessions:** 12 **Content:** Multi-focus: Designed to delay sex and prevent alcohol, cigarette, and marijuana use. Based on personal and social competence model of prevention (broader version of social influence theory). Included 9 sessions on life skills training (general coping skills and skills to resists negative peer influences) and 3 on postponing sexual involvement (discussed sex in media, lines to have sex, and consequences of sex and did role playing). **Methods:** A 5-session 1-year booster and a 4.5-hour 2-year booster were designed to reinforce the skills and knowledge and to help older youth be positive role models. Taught by staff members. Youth volunteered to participate.	Quasi-experimental. Fourteen clubs were assigned to 3 groups: comparison group, which received nothing; the first intervention group, which received Stay SMART without the booster; and the second intervention group, which received Stay SMART and the boosters. If youths did not participate in most of the sessions, they were dropped from the intervention groups. Marched questionnaire data were collected at baseline, 3, 15, and 27 months later. 3-month post-test: Stay SMART: N=83 Stay SMART + booster: N=81 Comparison: N=109	Repeated measures ANCOVA used to control for the pre-test measure of the outcome variable, gender, age, and ethnicity. There were few significant differences at baseline; none on behavior outcomes. Separate analyses for virgins and non-virgins as measured at pre-test.	**Virgins:** At 3 months: Recency of last intercourse: 0 Frequency of intercourse: 0 Combined measure: 0 At 15 months: Recency of last intercourse: 0 Frequency of intercourse: 0 Combined measure: 0 At 27 months: Recency of last intercourse: 0 Frequency of intercourse: 0,+ Combined measure: 0 **Non-virgins:** At 3 months: Combined measure: 0 At 15 months: Combined measure: 0 At 27 months: Combined measure: 0	For non-virgins, results were inconsistent. Stay SMART without the booster appeared to reduce frequency of intercourse at 27 months. With the booster, it did not appear to reduce frequency. These inconsistent results, coupled with the lack of random assignments, small sample sizes, very high attrition rates, and failure to adjust for clustering effect at the club level render these results inconclusive.

Study Information	**Sample Description**	**Study**			**Results**	
Program(s)/ Author(s)/ Publication Date	Location/ Socioeconomic Status (SES) / Post-Sample (N)	Program Description	Design	Analytic Methods	Change in Outcome	Additional Comments
Comprehensive Sex Education						
Safer Choices Coyle, Basen-Engquist, Kirby, Parcel, Banspach, Collins, Baumler, Carvajal, Harrist Forthcoming (June 2001)	Urban and suburban areas in San Jose, CA and Houston, TX Varied SES Cohort N=3,058	**Setting:** High schools **Sessions:** 10 each in 9th and 10th grades **Content:** Five major components: school health protection council, curriculum, peer resources and school environment, parent education, and school-community linkages. Based on social cognitive theory, social influence theory, and models of school change. Emphasized abstinence as the safest choice; condoms as safer than unprotected sex. Curriculum topics focused on knowledge, norms and skills to avoid sex or use condoms. Skill-based and interactive.	Experimental. Twenty schools were randomly assigned to treatment and control conditions. Control schools received existing sex/HIV education programs that were mostly knowledge-based. Matched questionnaire data were collected fall of 9th grade (baseline) and spring of 9th, 10th, and 11th grades.	Linear, logistic, and negative binomical regression models in a repeated measures ANCOVA framework to adjust for baseline variables. Impact was measured over the 31-month period. All were multi-level to adjust for clustering.	Initiation of intercourse: 0 Frequency of sex: 0 Number of sex partners: 0 Use of condoms at last sex: + Use of contraception at last sex: + Frequency of sex without condoms: + Number of sexual partners without condoms: +	This was a very strong design with random assignment, large sample sizes, long-term measurement of behavior and proper statistical analysis in two different locations.

Study Information	**Sample Description**	**Study**			**Results**	
Program(s)/ Author(s)/ Publication Date	Location/ Socioeconomic Status (SES) / Post-Sample (N)	Program Description	Design	Analytic Methods	Change in Outcome	Additional Comments
Kirby, Barth, Leland, Fetro **1991**	Urban and rural areas throughout California Varied SES N=758	**Setting:** Health education classes **Sessions:** 15 **Content:** Cognitive behavioral theory, social inoculation theory; strong emphasis on avoiding unprotected sex, either by avoiding sex or using protection **Methods:** Experimental; many role plays to build skills and self-efficacy	Quasi-experimental Partial random assignment of classrooms to intervention or comparison groups Comparison group received existing sex education programs of equal length Matched questionnaire data were collected at baseline, 6 and 18 months post-intervention Interventions post-test: N=429 Comparison post-test: N=329	Chi-square or t-tests between intervention and comparison groups at 6 and 18 months Initial equivalence of intervention/ comparison established with t- or chi-square tests.	Initiation of intercourse: At 6 months: 0 At 18 months: + Frequency of intercourse: 0 Contraceptive use at first sex: At 6 months: 0 At 18 months: 0 Contraceptive use at last sex: At 6 months: 0 At 18 months: 0 Frequency of contraceptive use at 18 months: Overall: 0 Females: + Males: 0 Lower-risk youth: + Higher-risk youth: 0 Frequency of intercourse at 18 months: Overall: 0 Sexually inexperienced at pre-test:+ Sexually experienced at pre-test:0 Teen pregnancy rates: 0	Sample sizes for some subgroups were too small for reasonable power.

Study Information	Sample Description	Study			Results	
Program(s)/ Author(s)/ Publication Date	Location/ Socioeconomic Status (SES) / Post-Sample (N)	Program Description	Design	Analytic Methods	Change in Outcome	Additional Comments
Reducing the Risk Hubbard, Geise, Rainey 1998	Urban and rural areas in Arkansas Varied SES N=212	**Setting:** Health education classes. **Sessions:** 16 **Content:** Cognitive behavioral theory; strong emphasis on avoiding unprotected sex either by avoiding sex or using protection. **Methods:** Experiential; many role-plays to build skills and self-efficacy.	Quasi-experimental. Five intervention school districts were matched with 5 comparison districts. Comparison group received existing sex education activities from state-approved texts or abstinence-only curricula. Matched questionnaire data were collected at baseline and 18-months later from one class selected from each school. Intervention post-test: N=106 Comparison post-test: N=106	One-way z-tests between intervention and comparison groups at 18 months. Initial equivalence of intervention and comparison groups determined.	Initiation of sex: + Condom use: Sexually inexperienced at pre-test: +	There were no significant differences between groups at baseline, but there was no random assignment. Attrition was very high (58%), in part because of graduation from high school. Sub-group samples sizes were small.

Study Information	Sample Description	Study			Results	
Program(s)/ Author(s)/ Publication Date	Location/ Socioeconomic Status (SES) / Post-Sample (N)	Program Description	Design	Analytic Methods	Change in Outcome	Additional Comments
Be Proud! Be Responsible! A Sexual Abstinence Curriculum **Be Proud! Be Responsible! A Safer Sex Curriculum** ("Be Proud! Be Responsible!" now known as "Making a Difference") Jemmott, Jemmott, Fong 1998	Philadelphia, PA Low income Total N=659	**Setting:** Recruited from high schools for a Saturday program on school campuses. **Sessions:** 8 1-hour modules delivered over 2 Saturdays. **Content:** 2 curricula, 1 abstinence-based, 1 safer-sex based. Based on cognitive-behavior theories and elicitation research. Small group discussions, videos, games, brainstorming, experiential exercises, and skill-building exercises. The safer sex curriculum also addressed hedonistic beliefs about condom use. Trained adult or peer facilitators.	Experimental. Random assignment to 2 treatment groups and 1 control group that received different intervention. Matched questionnaire data were collected at baseline, 3, 6, and 12 months.	Chi-squared tests or f-tests.	**Abstinence-based:** Initiation of intercourse: At 3 months: + Frequency of sex: At 3 months: 0 At 6 months: 0 At 12 months: 0 Condom use: At 3 months: 0 At 6 months: 0 At 12 months: + Frequency of unprotected sex: At 3 months: 0 At 6 months: 0 At 12 months: 0 **Safer-sex based:** Initiation of intercourse: At 3 months: 0 Frequency of sex: At 3 months: 0 At 6 months: + At 12 months:+ Condom use: At 3 months: + At 6 months: + At 12 months: + Frequency of unprotected sex: At 3 months: + At 6 months: + At 12 months: 0	This was a very strong study. Both the design was strong and the results were positive. Effects in mediating variables supported behavioral effects. Non-significant behavioral effects were typically in the desired direction. The safer sex curriculum had significant effects upon frequency of unprotected sex among youths sexually experienced at baseline, but not all youth. Results did no differ by matching participants and staff on gender, nor by adult versus per facilitators.

Study Information	Sample Description	Study			Results	
Program(s)/ Author(s)/ Publication Date	Location/ Socioeconomic Status (SES) / Post-Sample (N)	Program Description	Design	Analytic Methods	Change in Outcome	Additional Comments
Healthy Oakland Teens Ekstrand, Siegel, Nido, Faigeles, Cummings, Battle, Krasnovsky, Chiment, Coates 1996	Oakland, CA Low SES N=250	**Setting:** Social science classes at middle school. **Sessions:** 5 adult-led / 8 peer-led **Content:** 5 adult-led sessions included basic information on anatomy, substance abuse, HIV/STDs, and preventive behaviors. Eight peer-led sessions were more interactive and included perception of risk, values clarification, costs and benefits of preventive behaviors, influence of alcohol and drugs, peer norms, refusal skills, and condom use.	Quasi-experimental. A cohort of students in the intervention school was compared with cohorts of students in similar nearby schools. Baseline questionnaire data were collected in the 7th grade and 8-11 months later in the 8th grade. Intervention post-test: N=107 Control post-test: N=143	The 2 groups were compared with logistic regression controlling for baseline differences.	Initiation of sex: +	The validity of these results was reduced by the lack of random assignment, some differences between the intervention and comparison groups, relatively small sample seizes for analyses of initiation of sex (N=190), and failure to adjust for clustering effects. In addition, parent consent requirements changed, but the study was restricted to those respondents who completed surveys when passive parental consent was still in effect.

Study Information	Sample Description	Study			Results	
Program(s)/ Author(s)/ Publication Date	Location/ Socioeconomic Status (SES) / Post-Sample (N)	Program Description	Design	Analytic Methods	Change in Outcome	Additional Comments
Becoming a Responsible Teen St. Lawrence, Brasfield, Jefferson, Alleyne, O'Bannon, Shirley 1995	Jackson, MS Low SES N=225	**Setting:** Conference room in a health center. **Sessions:** 8 90- to 120-minute weekly meetings. **Content:** Based upon social learning theory. Designed to affect cognitive and emotional meanings attached to risky behavior, model behavioral competencies, and provide practice, feedback, and reinforce new skills. Covered AIDS information, sexual decisions and pressures, use of condoms, "lines," effective social skills, and situations that would be difficult to handle. **Methods:** Small group discussions with 5-15 youths were led by male and female co-facilitators. Considerable role-playing and practice. Sessions with HIV+ youth.	Experimental. Individual youth were randomly assigned to receive the study intervention or an alternative 2-hour educational intervention. Matched questionnaire data were collected at baseline, 2, 6, and 12 months later.	Repeated measures MANOVA used to measure impact of group and gender. No significant differences pre-test.	Initiation of intercourse: + Sexual intercourse during previous two months: + Number of sex partners: + Frequency of unprotected vaginal intercourse: Males: + Females: 0 Frequency of condom-protected vaginal intercourse: + Frequency of unprotected oral sex: + Frequency of unprotected anal sex: + Frequency of condom-protected anal sex: 0 Percent of acts of intercourse protected by condoms: +	This was a very strong evaluation design with random assignment, long-term follow-up, multiple outcome measures, and sophisticated statistical analysis. On some outcomes, reported risks fluctuated considerably from one time period to another.

Study Information	Sample Description	Study			Results	
Program(s)/ Author(s)/ Publication Date	Location/ Socioeconomic Status (SES) / Post-Sample (N)	Program Description	Design	Analytic Methods	Change in Outcome	Additional Comments
Interventions for youth at high risk						
Untitled Rotheran-Borus, Koopman, Haigners, Davies 1991	New York, NY Low SES (runaway youths) N=145	**Setting:** Shelter for runaway youth **Sessions:** Designed as 20, but was 3 to 30. Median=13 sessions **Content:** included general knowledge about HIV/AIDS, training in coping skills (including unrealistic expectation in high-risk situations), access to health care and other resources, and methods of surmounting individual barriers (covered in private counseling). Activities were interactive (e.g., developed raps and soap opera dramatizations and practiced behavioral coping responses).	Quasi-experimental. One shelter for runaway youth offered the program, while a second similar shelter in the same city serving similar youth did not. Matched interview data collected at baseline, 3 months later, and 6 months later. Intervention post-test: N=78. Comparison post-test: N=67.	Outcomes were regressed onto the number of sessions that runaways participated in and demographic variables. There were no significant differences between the 2 groups at baseline.	At 3 months: Abstained from sex: 0 Consistent condom use: + Avoidance of high-risk situations: + At 6 months: Abstained from sex: 0 Consistent condom use: + Avoidance of high-risk situations: +	Several things reduced the validity of this design: the lack of random assignment; the use of only two groups; the relatively small sample size; and the failure to adequately control for other differences between those youth who remained in the shelter for longer periods of time and those who remained for shorter periods. On the other hand, there were no significant differences in demographic characteristics or sexual risk behaviors at baseline between the two groups, and the magnitude of the effects appeared large.